What is claimed is:

1. A dual-sensing motif chemical sensor for detecting a toxic nerve agent, comprising:

an entrant medium and thin film suitable for surface plasmon resonance,

a sensing element disposed upon said thin film; and

a fluorescent molecule associated with said sensing element.

2. The sensor of claim 1, wherein said sensing element comprises a polymer.

3. The sensor of claim 1, wherein said thin film comprises a metal or semiconductor layer disposed between said entrant medium and said sensing element.

4. The sensor of claim 1, wherein said fluorescent molecule is cross-linked to said sensing element.

5. The sensor of claim 1, wherein said fluorescent molecule comprises a lanthanide signal transducer.

6. The sensor of claim 2, wherein said polymer is selected from the group consisting of methacrylic acid, ethyleneglycol dimethacrylate, styrene, and divinylbenzene.

7. The sensor of claim 5, wherein said lanthanide signal transducer is cross-linked to a polymer of said sensing element.

8. The sensor of claim 7, wherein said lanthanide signal transducer comprises [Europium(vinylbenzoate)$_N$].

9. A spectroscopy system, comprising:

(a) a surface plasmon resonance spectroscopy apparatus;

(b) a sensor including an entrant medium in optical contact with a thin film layer; and

(c) a sensing element disposed upon said thin film layer for binding a target molecule, wherein the sensing element includes a fluorescent molecule.

10. The system of claim 9, wherein said sensing element comprises a polymer.

11. The system of claim 9, wherein said thin film comprises a metal or semiconductor layer disposed between said entrant medium and said sensing element.

12. The system of claim 9, wherein said fluorescent molecule is cross-linked to said sensing element.

13. The system of claim 9, wherein said fluorescent molecule comprises a lanthanide signal transducer.

14. The system of claim 10, wherein said polymer is selected from the group consisting of methacrylic acid, ethyleneglycol dimethacrylate, styrene, and divinylbenzene.

15. The system of claim 13, wherein said lanthanide signal transducer is cross-linked to a polymer of said sensing element.

16. The system of claim 15, wherein said lanthanide signal transducer comprises [Europium(vinylbenzoate)$_N$].

17. In a SPR spectroscopy system including an entrant medium with a thin film layer, the improvement comprising:

a sensing element for binding a target molecule to a surface of said thin film layer in combination with a fluorescent molecule.

18. The system of claim 17, wherein said sensing element comprises a polymer.

19. The system of claim 17, wherein said thin film comprises a metal or semiconductor layer disposed between said entrant medium and said sensing element.

20. The system of claim 17, wherein said fluorescent molecule is cross-linked to said sensing element.

21. The system of claim 17, wherein said fluorescent molecule comprises a lanthanide signal transducer.

22. The system of claim 18, wherein said polymer is selected from the group consisting of methacrylic acid, ethyleneglycol dimethacrylate, styrene, and divinylbenzene.

23. The system of claim 21, wherein said lanthanide signal transducer is cross-linked to a polymer of said sensing element.

24. The system of claim 23, wherein said lanthanide signal transducer comprises [Europium(vinylbenzoate)$_N$].

25. A method for detecting a target molecule present on a sensor, comprising the following steps:

(a) exposing a sensor including an entrant medium, a thin film suitable for surface plasmon resonance, a sensing element disposed upon said thin film, and a fluorescent molecule associated with said sensing element, to a solution putatively containing said target molecule; and

(b) performing spectroscopic measurements.

26. The method of claim 25, wherein said target molecule comprises a nerve agent.

27. The method of claim 26, wherein said nerve agent is Soman or a chemical simulant.

28. The method of claim 25, wherein said thin film is a metal.

29. A method for making a sensor used in a surface plasmon spectroscopic device, comprising the following steps:

(a) coating an entrant medium having a thin film suitable for surface plasmon resonance with a sensing element;

(b) associating a fluorescent molecule with said sensing element; and

(c) sensitizing said sensing element to a target molecule.

30. The method of claim 29, wherein step (c) comprises molecular imprinting.

31. The method of claim 29, wherein step (a) comprises surface-initiated polymerization.

32. The method of claim 29, wherein said sensing element comprises a polymer.

33. The method of claim 29, wherein said thin film comprises a metal or semiconductor layer disposed between said entrant medium and said sensing element.

34. The method of claim 29, wherein said fluorescent molecule is cross-linked to said sensing element.

35. The method of claim 29, wherein said fluorescent molecule comprises a lanthanide signal transducer.

36. The method of claim 32, wherein said polymer is selected from the group consisting of methacrylic acid, ethyleneglycol dimethacrylate, styrene, and divinylbenzene.

37. The method of claim 35, wherein said lanthanide signal transducer is cross-linked to a polymer of said sensing element.

38. The method of claim 37, wherein said lanthanide signal transducer comprises [Europium(vinylbenzoate)$_N$].

39. A chemical sensor featuring dual sensing motifs, comprising:

a first sensing motif suitable for surface plasmon resonance; and

a second sensing motif suitable for fluorescence.